REMARKS

Claim 7 has been objected to. By this amendment, claim 7 has been cancelled.

Claims 1 to 6 have been rejected as anticipated by Smith. Claims 1 to 3 have also been rejected as anticipated by Andersson. In addition, claims 8 and 9 have been rejected in like manner.

Claims 1 to 6, 8 and 9 have also been rejected as anticipated by Higa. Claims 10 and 11 have been objected to as containing allowable subject matter. The indication of allowability is appreciated.

By this amendment, claim 1 has been amended to include three additional features as follows:

1. The drainage means 40 is a pipe.

2. The section of the pipe located within the liner 28 is surrounded by a particulate material;

3. The particulate material is surrounded by a dispersing layer 44.

Claims 2, 4, 6 and 8 to 11 have been amended by deletion of the reference numbers.

Finally, new claims 12 to 18 are included. Claim 12 is the original Claim 10 rewritten in allowable form as indicated by the examiner whilst Claims 13 to18 are identical to some of the original claims and are now appended to new Claim 12.

The additional features in claim 1 discussed above render the subject matter both novel and inventive over US 4,920,694 (Higa). Higa discloses a culture bed which is formed in the surrounding earth and isolated by a wall 1, with a pipe 3 laid in the bottom of the culture bed. However, there are a number of significant differences between applicant's claimed invention and the disclosure in Higa.

Firstly, the pipe 3 in Higa is provided in order to supply water to the culture bed. If one refers to the introduction of Higa, it is clear that the whole ethos and intention of the system disclosed in Higa is to retain as much water as possible. This is set out, for example, in column 1, lines 20 to 22, where it is stated that ". . . steps must be taken to utilize what water becomes available at a maximum possible efficiency. . . . evaporation of available water must be minimized".

Again, it is stated in column 2, lines 54 to 57, that the method and apparatus of the invention of Higa is to solve the problems facing arid land reclamation ". . . by ensuring that all available water is used at optimum efficiency".

Higa, therefore, is directed to the use of an irrigation system in areas where there is little or no rainfall.

In contrast with this, applicant's claimed invention is intended for use in areas where there is significant rainfall and a risk of flooding. The purpose of the applicant's system is to enable excess water, particularly rainwater, to be removed from the plant growing medium as quickly as possible through the drainage pipe 40. To this end, the pipe is also surrounded by particulate material which allows water to flow quite freely through the material into the drainage pipe for rapid removal.

The particulate material serves two primary purposes. Firstly, it allows the excess water to drain rapidly through the particulate material into the pipe for rapid removal. Secondly, it separates the growing medium from the pipe, allowing relatively large openings to be used in the pipe for rapid removal of the excess water. If the particulate material were not used, then the openings in the pipe 40 would need to be quite small to prevent the growing medium from being washed into the pipe by excess water.

Although Higa does make reference to the possibility of water being drained, using the pipes (column 4, lines 49 to 54), this is used to leach salts from the culture bed and is not in any way a suggestion that the system could be used to cope with flood water.

A further problem which arises with the system of Higa is that the root system of the plants and trees will grow into the pipe 3, swelling and blocking the pipe and/or cracking the pipe. In column 3, line 33 reference is made to plants having "extensive and expanding root systems". In the applicant's claimed invention the dispersing layer 44 around the particulate material prevents the roots from growing through the particulate material and into the pipe 40. Thus, the system of Claim 1 is considerably less prone to damage to the pipe 40 and is therefore considerably less expensive to maintain.

Referring to US 4,236,351 (Smith), this patent relates to small planters for growing potted plants (column 1, lines 61 to 63) and as such is therefore not relevant to the applicant's invention which is intended for use in, for example, landfill sites or other landscaped areas which are in the open and may be subject to the risk of flooding. In Smith, the plant medium is held in an upper compartment 26 whilst water is retained in a lower compartment 27. There is no possibility of excess water being drained away from the plant medium and there is nothing to prevent the plant pot 10 from being completely filled with water.

The examiner suggests that the pipes 18 and 19 of Smith are adapted to "drain water from the plant growing medium" but excess water in the plant medium drains through the perforations 28 (column 3, lines 60 to 63). The pipes 18 and 19 are perforated only in the region below the horizontal wall 17 which separates the growing medium from the lower chamber (column 3, lines 23 to 26) with further perforations being provided only at the upper end of pipe 18, above the level of the growing medium. The intermediate portion of each pipe 18, 19 which passes through the growing medium does not have perforations (column 3, lines 28 and 29). The main purpose of the pipes 18 and 19 is to allow the circulation of air beneath the growing medium (column 4, lines 4 to 6).

There is in fact in Smith no disclosure of a drainage pipe or particulate material or a dispersing layer around particulate material, and Smith could not possibly be used to provide a system which allows rapid drainage of excess water away from a landscaped area.

Referring to the WO 89/04600 patent (Anderson), this is even less relevant than Smith or Higa, as the examiner also apparently believes. The comments above in relation to Smith and Higa also apply to Anderson. In particular, the system of Anderson is also intended for irrigation rater than rapid removal of excess water and does not include a drainage pipe, particular material or dispersing layer with the advantages set out above in relation to Higa.

Thus, the claims are in condition for allowance and such action is courteously solicited. If for some reason the examiner remains unconvinced that all claims are allowable, she is respectfully requested to call the undersigned at (310) 788-5035.

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The Commissioner is hereby authorized to charge the filing fee for all additional claims, or other fees, which may be required while this application is pending in the Patent Office, or credit any overpayment, to Account No. 16-2230. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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